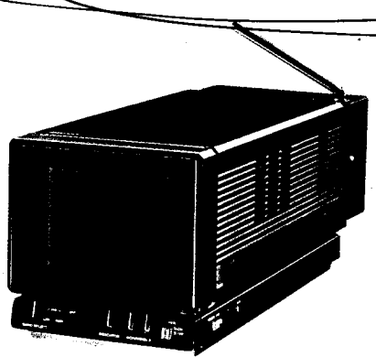
TRINITRON® COLOR TV RECEIVER

KV-4000



OPERATING INSTRUCTIONS

OWNER'S RECORD

The model and serial numbers are located at the rear. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. KV-4000 Serial No. _____

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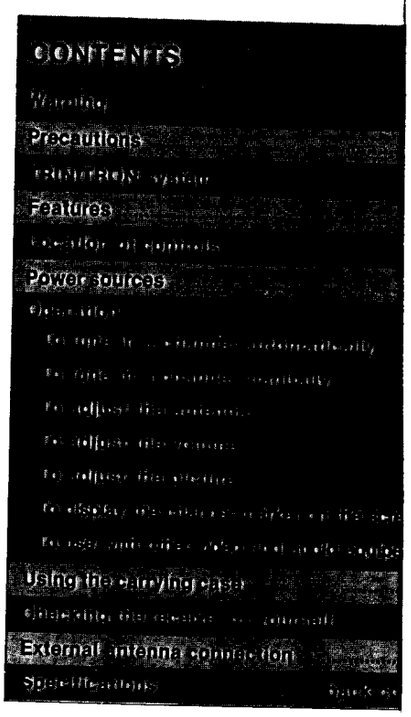


Congratulations on choosing this advanced Sony Color TV Receiver. For best results, please read this manual thoroughly before operating the set, and keep these instructions handy for future reference.

WARNING

To prevent fire or shock hazard, do not expose the set to rain or moisture.

Dangerously high voltages are present inside the set. Do not open the cabinet. Refer servicing to qualified personnel only.

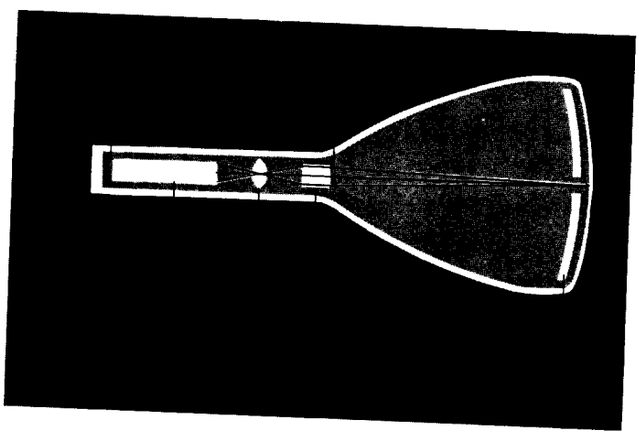
PRECAUTIONS

- For ac operation, operate only on 120V ac with the supplied ac power adaptor. For rechargeable battery operation, use the Sony Battery Pack BP-36 (optional). For car battery operation, 12V dc is required. Use the car battery cord recommended for this set.
- The ac power cord of the AC Power Adaptor is equipped with a polarized plug (one blade of the plug is wider than the other), which will fit into the power outlet only one way. Should you be unable to insert the plug fully into the outlet, try reversing the plug. Should the plug still fail to fit, contact your dealer for assistance. Do not defeat the safety purpose of the polarized plug.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the set near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the set in the location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Should any liquid or solid object fall into the cabinet, unplug the set and have it checked by qualified personnel before operating it any further.
- Do not attempt to make any of the adjustments at the small holes in the bottom of the set. These are special adjustments to be performed only by qualified personnel.
- Unplug the set from the wall outlet when it is not to be used for an extended period of time.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- Save the original shipping carton and packing material; they will come in handy if you ever have to ship your set. For maximum protection, repack your set as it was originally packed at the factory.
- To keep the set looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner or benzine, or abrasive cleansers, since these will damage the cabinet. As a safety precaution, unplug the set before cleaning it.

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS" included with this manual in the vinyl bag.

TRINITRON SYSTEM

Your Sony Color TV employs the latest concept in color-image reproduction...the TRINITRON System. A product of intensive engineering research, the TRINITRON System ensures bright, sharp pictures and few service requirements.
The system consists of the TRINITRON Gun and "Aperture Grille". The TRINITRON Gun produces the three beams that excite the primary phosphors on the screen. The beams are aimed and focussed by a unique set of electron lenses and a pair of electron prisms. Pictures stay sharp at all points on the screen because all three beams pass through the center of a large lens. The Aperture Grille color selection system allows a larger amount of electrons to pass through it to provide high brightness on the screen.
"Guard Grille", a series of non-reflecting vertical stripes that alternate with the phosphor color stripes, absorbs ambient light reflections. Moreover, this TV employs newly developed phosphors. The result is a high-contrast, brighter picture with no increase in energy consumption.

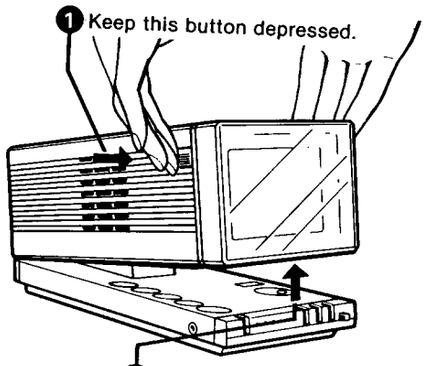


FEATURES

- The KV-4000 is a 3.7 inch color TV receiver which receives all VHF and UHF channels from 2 through 83.
- Four different power sources; household ac, batteries, rechageable battery, or 12V car battery, enable you to use the TV anywhere.
- The AC Power Adaptor can be detached from the receiver to make it more portable when it is powered by dc current.
- Your Sony Color TV features the unique ECONOQUICK system. This provides a picture within seconds after the set is switched on. There is absolutely no power consumption when the set is not in use.

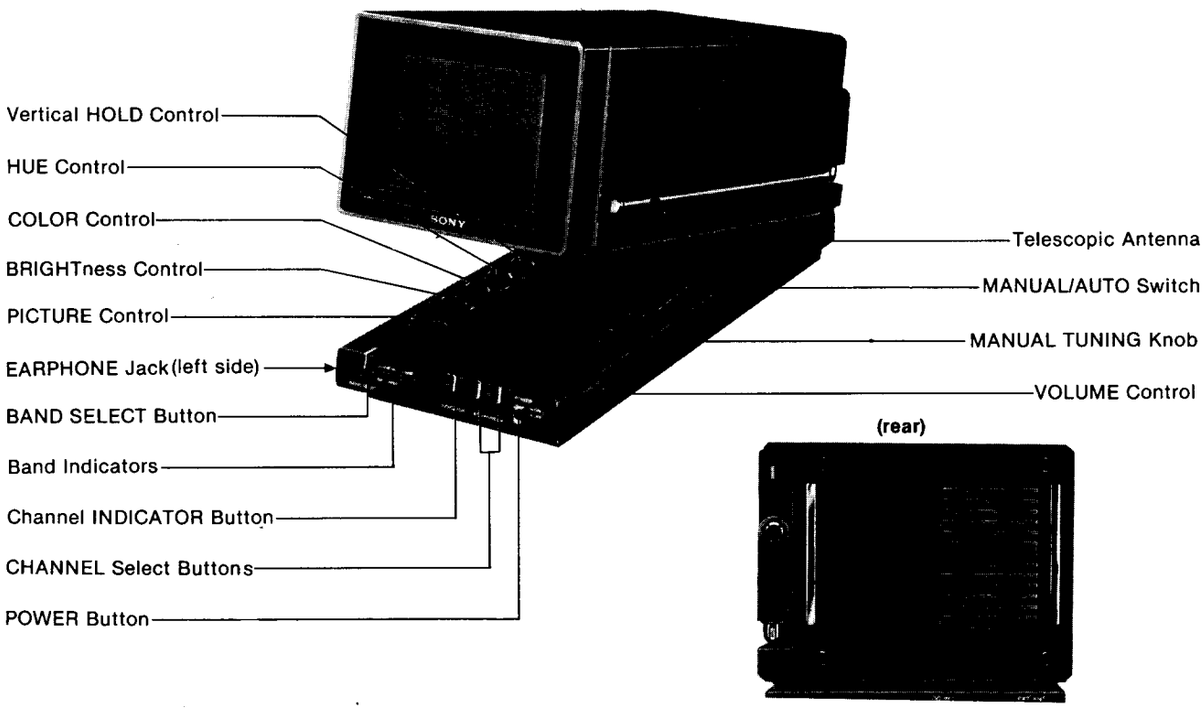
LOCATION OF CONTROLS

To expose the controls



2 Raise the cabinet then release the button. The cabinet will then be locked in the raised position.
- To lower the cabinet, depress the button and gently let the cabinet down.
- The cabinet can be locked in the two different raised positions.

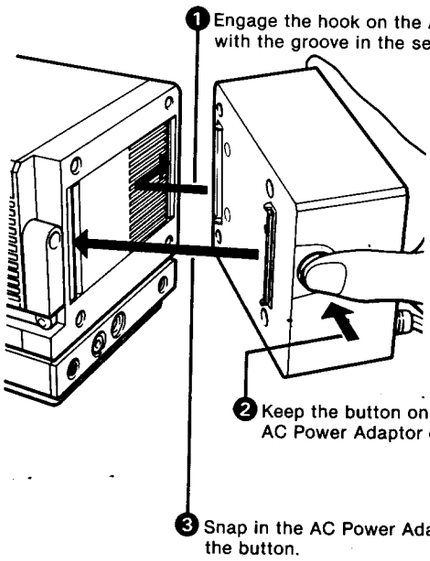
CAUTION: Do not push down on the cabinet when it is in the raised position, since this may cause serious damage to the set.


Vertical HOLD Control
HUE Control
COLOR Control
BRIGHTness Control
PICTURE Control
EARPHONE Jack (left side)
BAND SELECT Button
Band Indicators
Channel INDICATOR Button
CHANNEL Select Buttons
POWER Button
Telescopic Antenna
MANUAL/AUTO Switch
MANUAL TUNING Knob
VOLUME Control
(rear)

POWER SOURCES

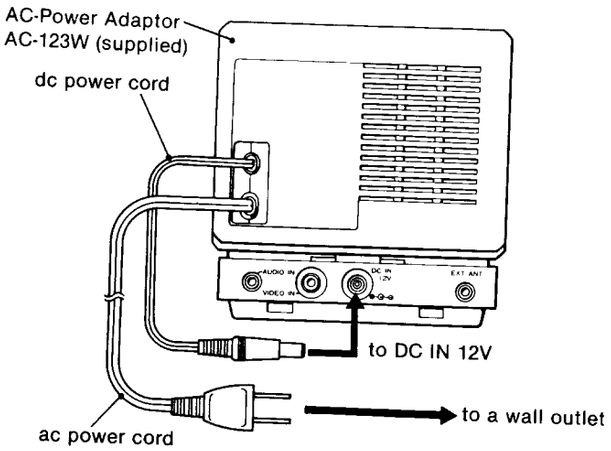
House current operation

❶ Attach the SONY AC-123W AC Power Adaptor (supplied) as illustrated.


❶ Engage the hook on the AC Power Adaptor with the groove in the set.
❷ Keep the button on the left side of the AC Power Adaptor depressed.
❸ Snap in the AC Power Adaptor and release the button.

❷ Plug the dc power cord from the AC-123W into the DC IN 12V jack at the rear of the receiver.

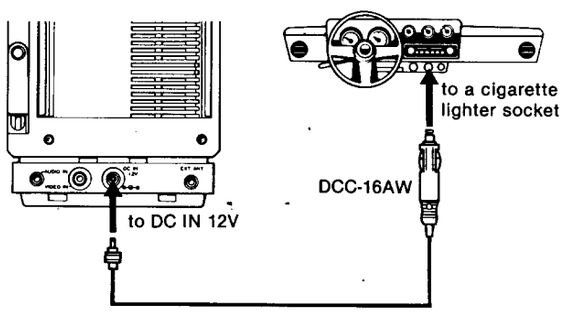
❸ Connect the ac power cord to a 120V ac wall outlet.



Car battery operation

The KV-4000 operates on a 12V vehicle battery through a cigarette lighter socket. Connect the optional Sony DCC-16AW Car Battery Cord as illustrated.

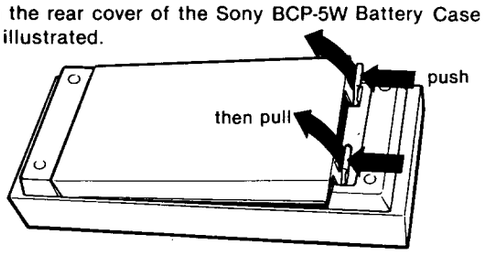
For details, refer to the instruction manual of the DCC-16AW.



• The DCC-16AW is designed for use with a 12V negative ground system.

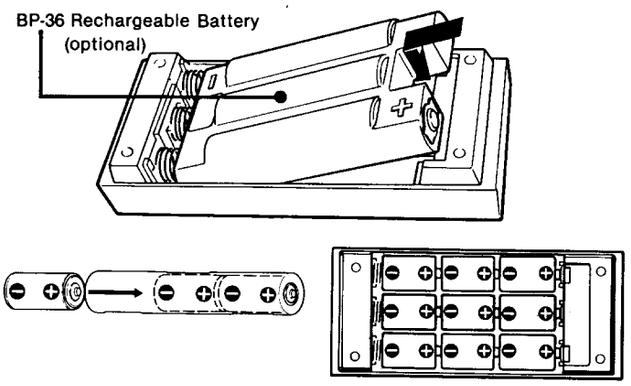
Battery operation

❶ Open the rear cover of the Sony BCP-5W Battery Case (supplied) as illustrated.

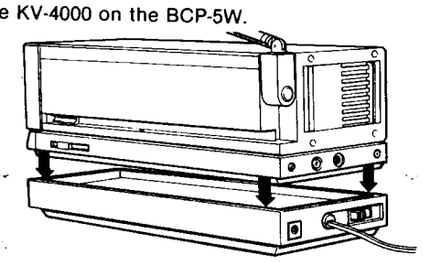


❷ Insert the Sony BP-36 Rechargeable Battery (optional) or nine size D (IEC designation LR-20) batteries (optional) with the correct polarity, as indicated inside the battery compartment.

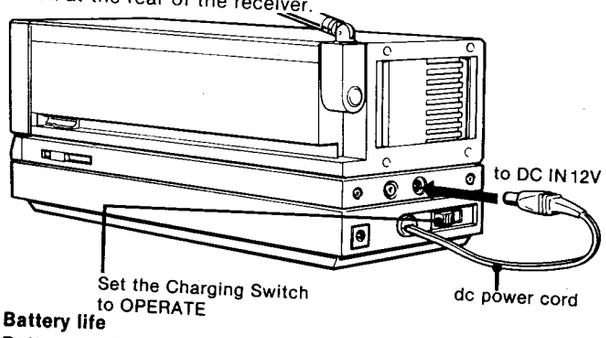
Press the flat side of the battery pack against the spring contacts and push the other end of the battery pack down until it snaps into place.



❸ Place the KV-4000 on the BCP-5W.



❹ Plug the dc power cord from the BCP-5W into the DC IN 12V Jack at the rear of the receiver.



Battery life

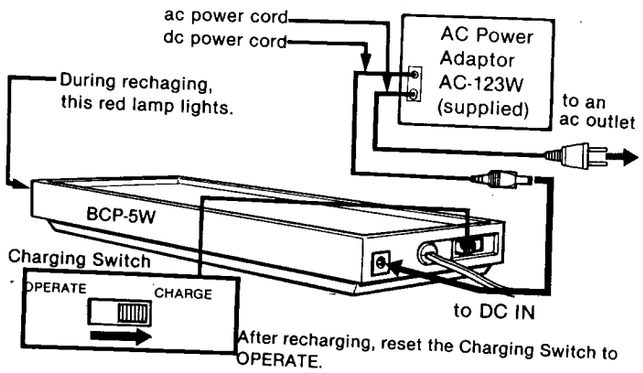
Battery life is dependent on operating conditions and the type of batteries used. The following table shows some examples.

BP-36	Eveready Heavy Duty No.1250	Eveready alkaline No.E95
2.5 hours	4.0 hours	6.0 hours

If the picture becomes smaller, this shows that the battery is exhausted. In this case, replace all the batteries with new ones or recharge the battery pack. In battery pack operation, do not operate the set after the picture has become smaller, since this will reduce the serviceable life of the battery pack.

Recharging of the battery pack

After each use, recharge the BP-36 battery pack through the built-in charger. Make the connections as illustrated and set the Charging Switch to CHARGE. Recharging will begin.
Charging time is approximately 14 hours.



The Charging lamp may not light when a very heavily discharged battery is put on charge. Should this occur, allow several hours to reach a charging condition, as indicated by the Charging lamp. If the battery still cannot be recharged, it will have to be replaced.

WARNING

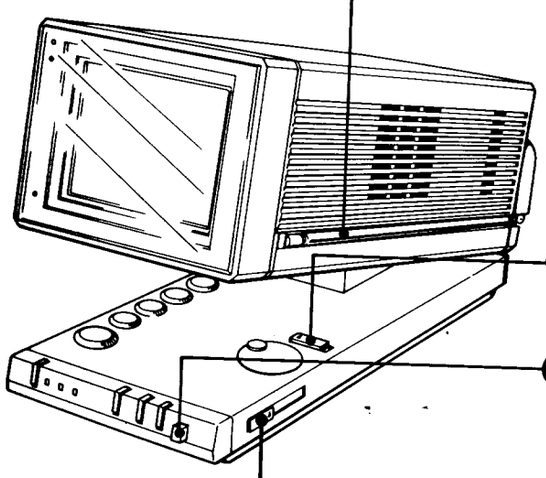
- Never throw the bettery into a fire as it may explode.
- Do not allow the contact plugs of the battery to touch any metal object. This would create a short circuit.
- This built-in charger is designed for use with the BP-36 Battery Pack. Do not use this charger to charge any other type of batteries.

OPERATION

Operate the controls in the numbered sequence for proper operation.

To tune in a channel automatically

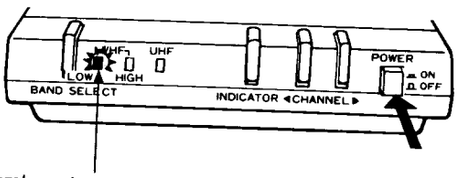
Adjust the antenna (see page 17)



1 Set the MANUAL/AUTO Switch to AUTO.

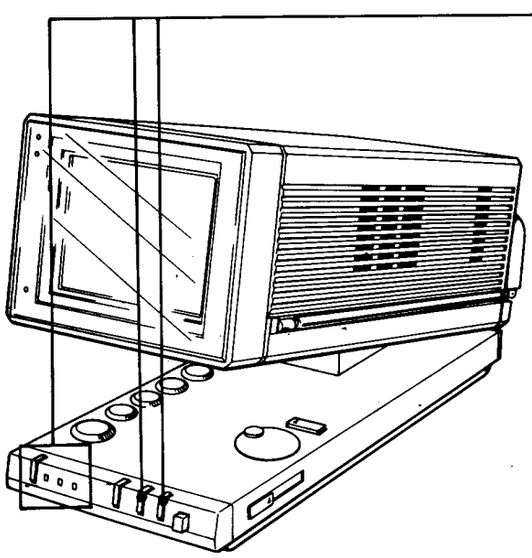
2 Push the POWER Button in until locked.

Adjust the volume. (See page 17)



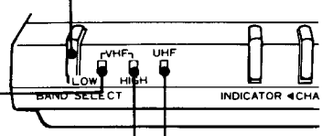
The lowest numbered active channel in your area will automatically be received and the red VHF Band Indicator will light.

- When using external antenna, tuning may sometimes stop between channels in strong signal areas.
  In this case, set the DISTANT-LOCAL Switch on the antenna connector to LOCAL.



3 Select the desired channel:

a Push this button to select one of the three TV bands.
The BAND Indicator lamps show what band you are tuned to.

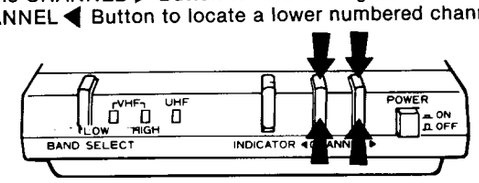


red lamp: VHF LOW on panel for VHF channels 2–6

yellow lamp: VHF HIGH on panel for VHF channels 7–13

green lamp: UHF on panel for UHF channels 14–83

b Press the CHANNEL ▶ Button to locate a higher numbered channel or the CHANNEL ◀ Button to locate a lower numbered channel.



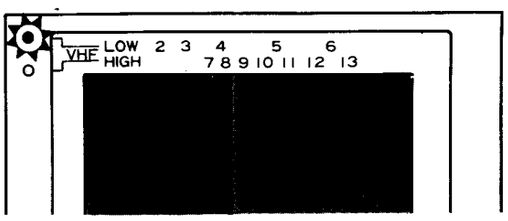
● While tuning, a colored channel marker appears on the screen and the corresponding TV band indicator on the left side of the screen will light.

The red colored channel marker indicates VHF channels 2 through 6.
The yellow colored channel marker indicates VHF channels 7 through 13.
The green colored channel marker indicates UHF channels 14 through 83.

The sound is muted while seaching for a TV station.

When you press the CHANNEL Buttons, the colored channel marker on the screen moves towards the right when a higher numbered channel is being tuned and towards the left when a lower numbered channel is being tuned.

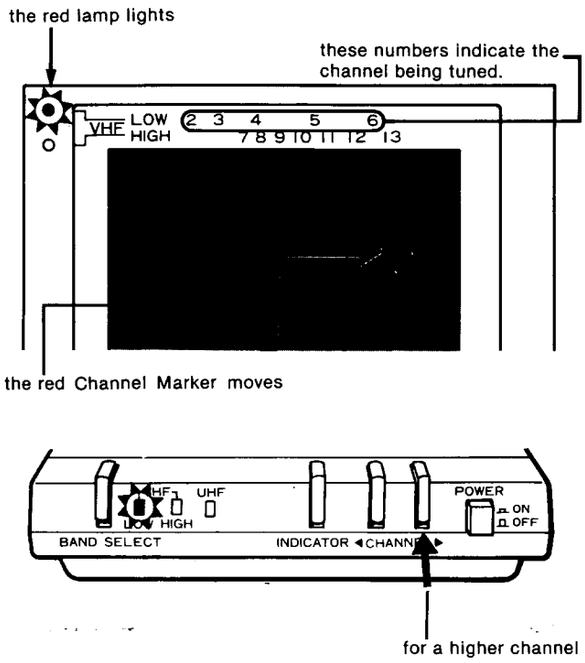
For example this indicates that VHF channel 4 is being received.



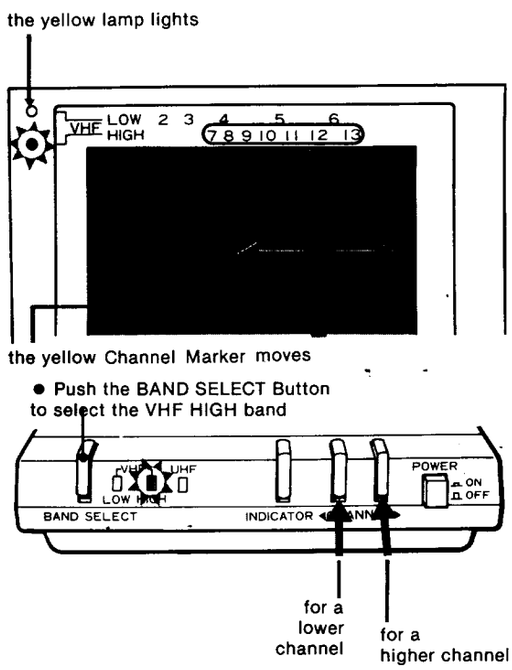
A few seconds after the channel is tuned correctly, the band indicator will turn off and the channel marker will disappear.
To display the channel marker again, press the INDICATOR Button.

Examples

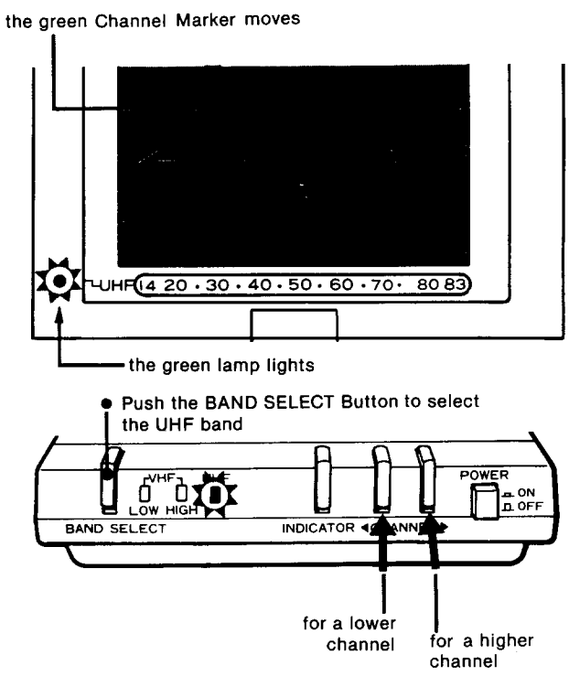
When a VHF LOW channel (2–6) is tuned:



'hen a VHF HIGH channel (7–13) is tuned:

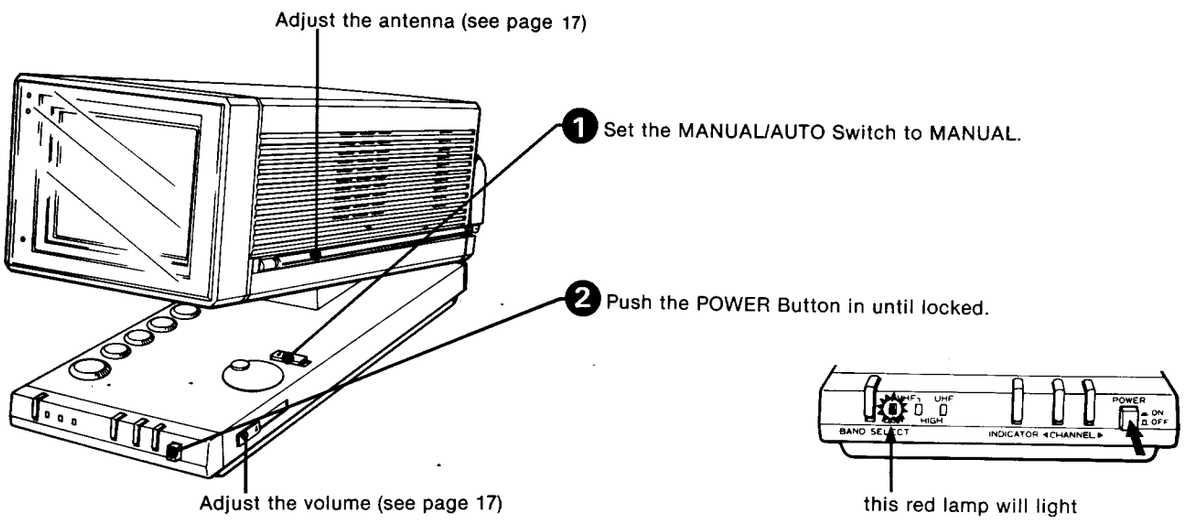

the yellow lamp lights
VHF LOW HIGH 2 3 4 5 6 7 8 9 10 11 12 13
the yellow Channel Marker moves
• Push the BAND SELECT Button to select the VHF HIGH band
VHF UHF LOW HIGH
POWER ON OFF
BAND SELECT
INDICATOR
for a lower channel
for a higher channel

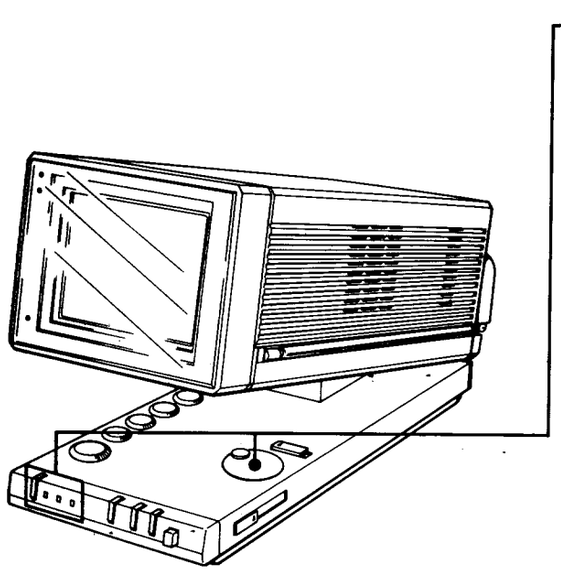
When a UHF channel (14–83) is tuned:


the green Channel Marker moves
UHF 14 20 • 30 • 40 • 50 • 60 • 70 • 80 83
the green lamp lights
• Push the BAND SELECT Button to select the UHF band
VHF UHF LOW HIGH
POWER ON OFF
BAND SELECT
INDICATOR
for a lower channel
for a higher channel

To tune in a channel manually

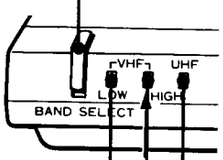
When there is extreme interference, or to tune to an extremely weak channel, manual tuning is recommended.





ⓐ Push this button to select one of the three TV bands.

The Band Indicator lamps show what band you are tuned to.

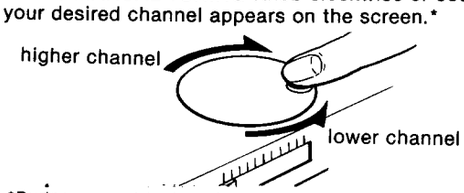


red lamp: VHF LOW on panel for VHF channels 2–6

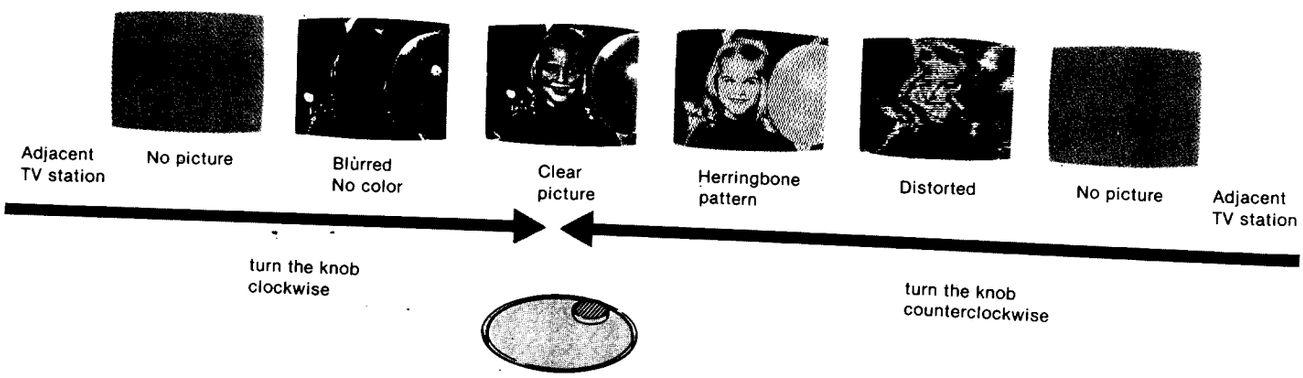
yellow lamp: VHF HIGH on panel for VHF channels 7–13

green lamp: UHF on panel for UHF channels 14–83

ⓑ Turn the MANUAL TUNING Knob clockwise or counterclockwise until your desired channel appears on the screen.*

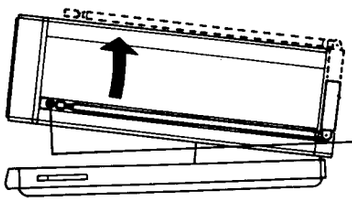


*During manual tuning, the colored channel marker and the TV Band Indicators will operate as explained in "To tune in a channel automatically" (page 12).



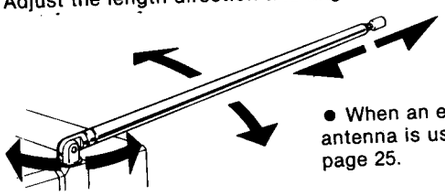
- To use your TV set with a cable television system, contact a representative of the cable company for instructions regarding channel selection. In most cases, this adjustment will be made by the cable company at the time of installation.

To adjust the antenna

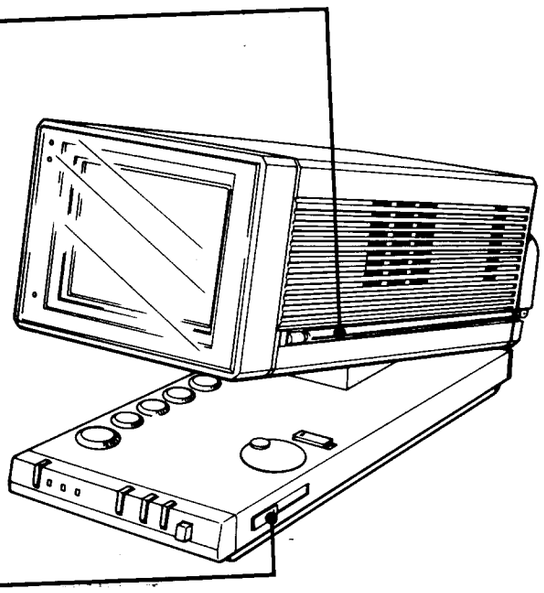


Push this button and the top of the antenna will be released.

Adjust the length direction and angle for the best reception.

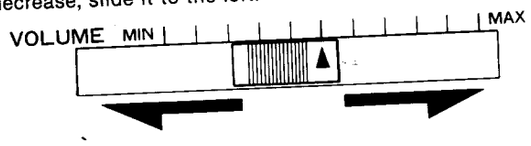


- When an external antenna is used, refer to page 25.



To adjust the volume

To increase the volume, slide the VOLUME Control to the right. To decrease, slide it to the left.



Earphone jacks
For private listening, insert th earphone plug into the [ⓟ] receptacle. This disconnects the loudspeaker.

To adjust the picture

Brightness and contrast adjustment
Correct brightness and contrast settings are important for good color reproduction.
Perform the initial adjustments as follows:
❶ Turn the PICTURE Control fully counterclockwise.
❷ Adjust the BRIGHTness Control so that the darkest parts of the picture are seen as black.
❸ Turn the PICTURE Control from the lowest setting to the desired level according to your preference and room lighting conditions. The PICTURE Control will adjust the contrast, color intensity and brightness simultaneously in the proper ratio.
A center position that provides a setting suitable for average use is incorporated in this control.

Adjust the COLOR Control for the desired color intensity.

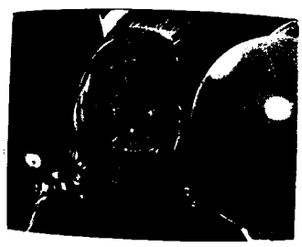
Picture becomes pale.

Picture becomes vivid.

Adjust the HUE Control for the most natural skin tones.

Skin tones become purplish.

Skin tones become greenish.

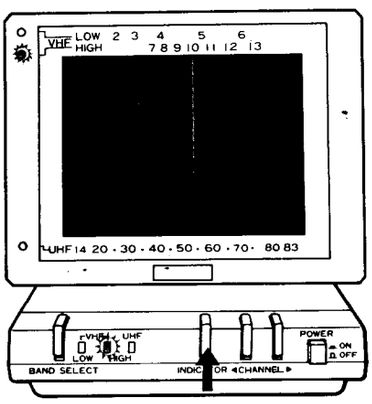


• COLOR and HUE adjustments have no effect upon black and white programs.

Vertical hold control
If the picture rolls vertically, adjust the V HOLD Control.

To display the channel marker on the screen

To identify the number of the channel tuned in, press the INDICATOR Button.
While the INDICATOR Button is pressed the band indicator will light and the colored channel marker will appear on the screen.

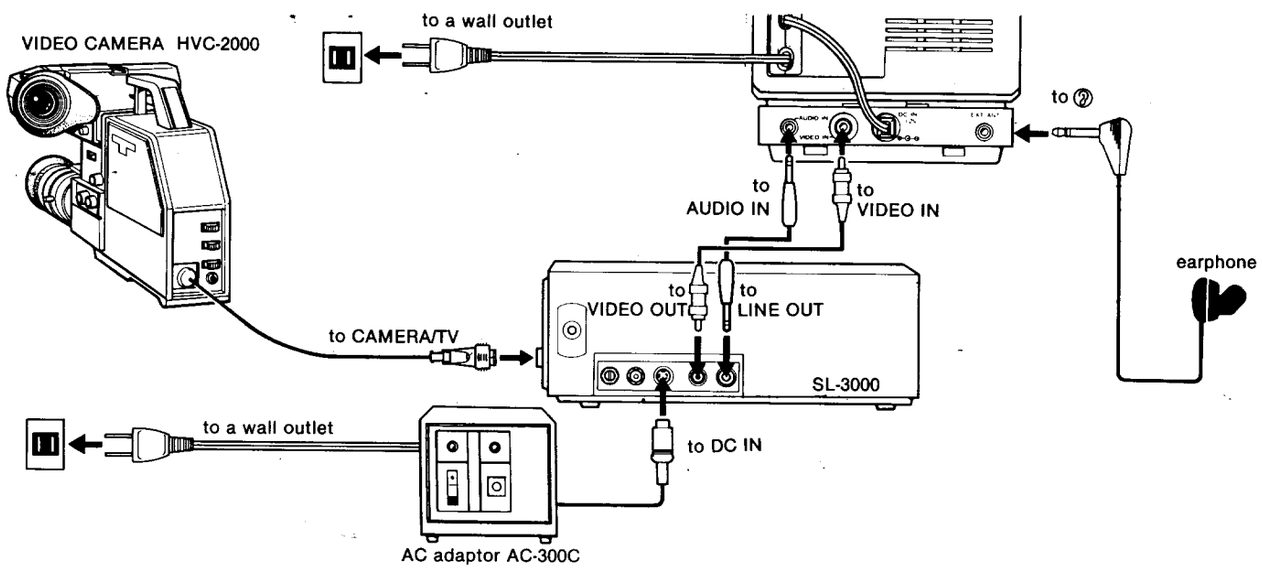


Example
VHF channel 10
is tuned

To use with other video and audio equipment

Connect a color video camera (for example the Sony HVC-2000) and a video tape recorder (for example the Sony SL-3000) as illustrated.

● The picture and the sound being recorded with the camera and the recorder may be monitored so that accurate camera and recorder adjustments may be made.



While recording the picture and sound, the controls on the receiver can be adjusted independently of the recording signal.
- When the plugs are connected to the VIDEO IN/AUDIO IN Jacks, TV signals are automatically disconnected and the picture and the sound from the VIDEO IN/AUDIO IN Jacks are available.
- When monitoring recorded sound, use the earphone to prevent acoustic feedback (a howling effect).

After recording, rewind the tape and play it back to check the recorded picture and sound.
For details, refer to the operating instructions furnished with the recorder.

When using the TV set with a Sony SL-5600 or SL-5400 Betamax videocassette recorder, connect the VIDEO OUT and AUDIO OUT Jacks of the recorder to the VIDEO IN and AUDIO IN Jacks of the TV set. To view TV programs, disconnect the plugs from the VIDEO IN and AUDIO IN Jacks of the TV set.

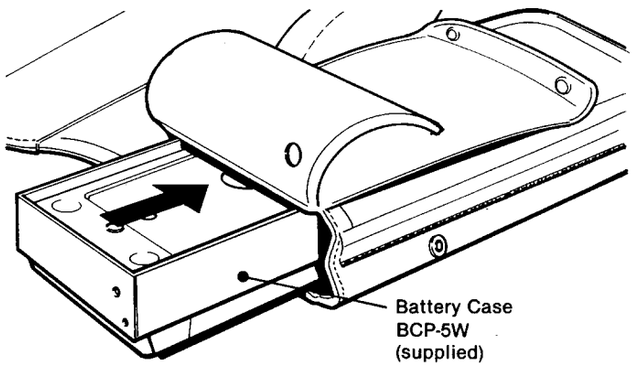
If the VHF OUT Jack of the recorder is connected to the EXT ANT Jack of the TV set to view the VTR playback, set the MANUAL/AUTO Switch to MANUAL and select the locally inactive channel (channel 3 or 4) in your area with the MANUAL TUNING Knob.
- The MANUAL/AUTO Switch should remain in the MANUAL position during VTR playback to prevent automatic tuning of another channel while using Betascan.
- In Betascan operation, the red VHF band indicator will light and the red colored channel marker will appear on the screen.

USING THE CARRYING CASE

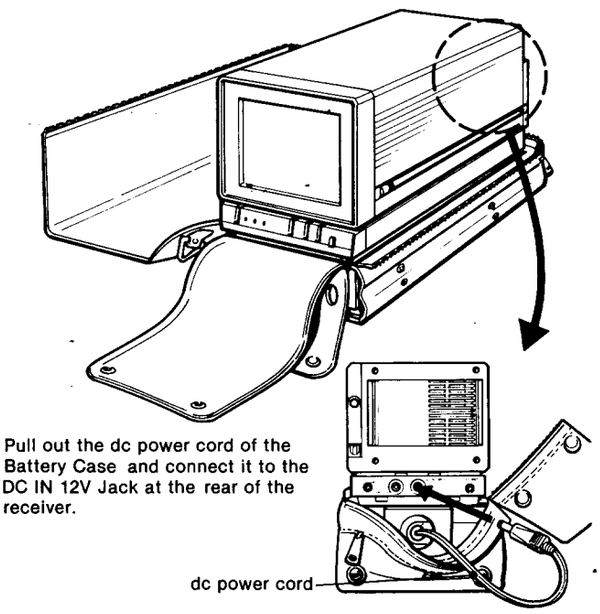
The supplied Carrying Case is designed to permit the KV-4000 to be used outdoors. It may be attached to the KV-4000 with or without the Sony BCP-5W Battery Case.

With the BCP-5W

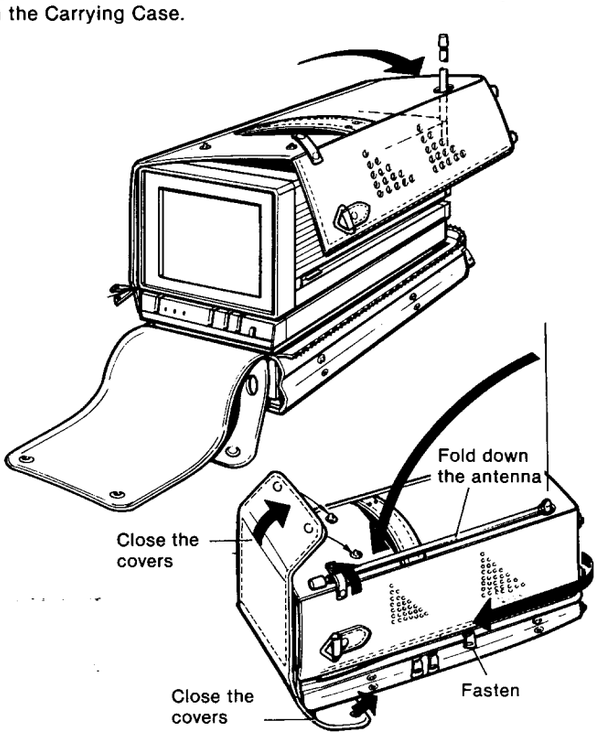
❶ Insert the Battery Case.



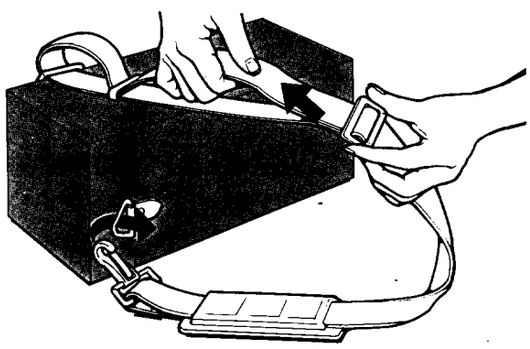
❷ Place the KV-4000 on the Battery Case.



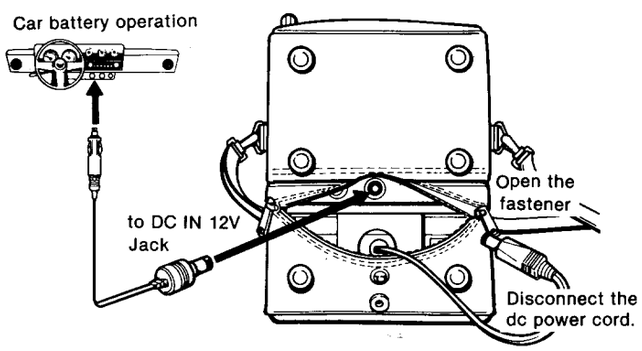
❸ Stand up the Telescopic antenna and pass it through the hole in the Carrying Case.



❹ Attach the shoulder strap (supplied) and adjust its length.



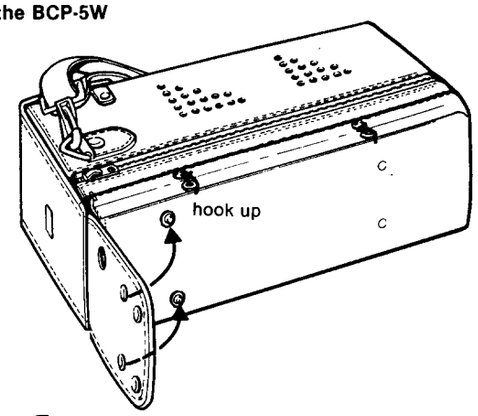
Car battery operation



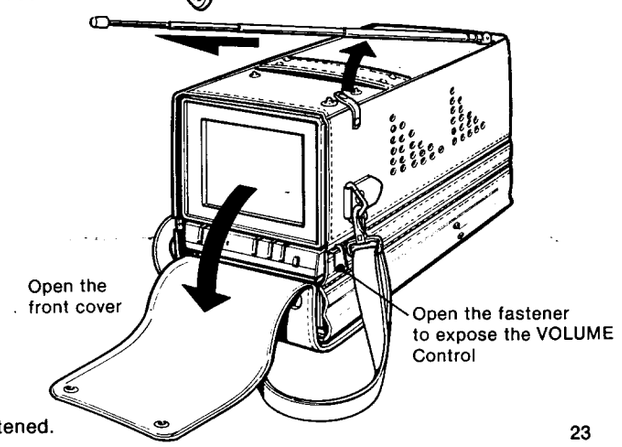
CAUTION

- Do not pick unit up by the shoulder strap while the fasteners are unfastened.

Without the BCP-5W



In use



CHECKING THE RECEIVER BY YOURSELF

Many apparent malfunctions may be caused by slight misadjustments of the regular controls or some other equally simple cause. If any difficulty arises in the operation of your set, first check through this illustrated list of symptoms and corrections. Should the difficulty persist, unplug the set and contact your Sony dealer.

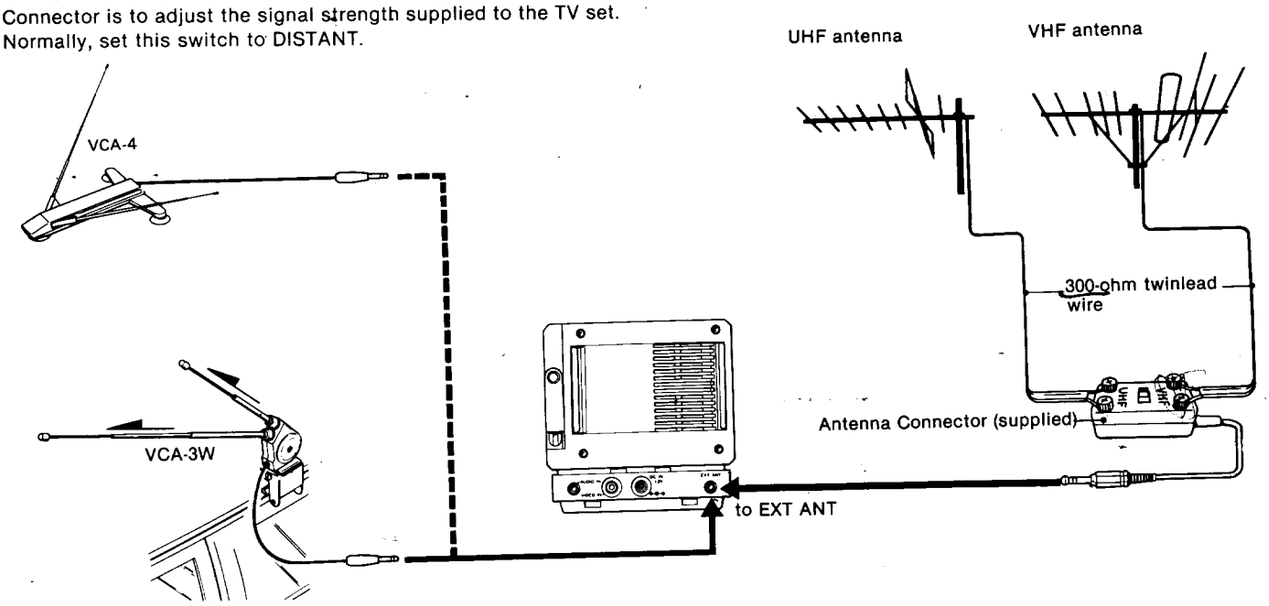
SYMPTOM	CORRECTION
no picture (screen not lit), no sound	● In AC operation, check that the dc power cord plug is connected to the DC IN 12V Jack and the ac power cord is connected to a working outlet. ● In Rechargeable Battery Pack operation, check that the dc power cord of the AC Power Adaptor is disconnected from the battery pack or recharge the battery pack. ● Check that the Charging Switch is set to OPERATE. ● Disconnect the plugs from the VIDEO IN and AUDIO IN Jacks.
no picture (screen not lit), but good sound	● Turn the BRIGHTness or PICTURE Control clockwise. ● Disconnect the plug from the VIDEO IN Jack.
good picture but no sound	● Slide the VOLUME Control to the right. ● Check that the earphone is disconnected from the EARPHONE Jack. ● Disconnect the plug from the AUDIO IN Jack.

SYMPTOM	CORRECTION
no picture no sound, but snow and noise only	● Adjust the Telescopic Antenna. ● Check the external antenna. ● Readjust the tuning.
herringbone pattern, stripes, no color, no picture, too indistinct, etc.	● Readjust the tuning.
dotted lines or stripes	● Often caused by interference from autos, neon signs, hair dryers, electric razors, etc. Try adjusting the antenna for minimum interference.
double images or "ghosts"	● Reflections from nearby mountains or buildings often cause this problem. in such cases, a highly directional outdoor antenna may improve the picture.

EXTERNAL ANTENNA CONNECTION

In most reception areas, the built-in Telescopic Antenna should be adequate for good reception. However, if you cannot obtain satisfactory reception with it, the use of an external or outdoor antenna is recommended.
Connect the external antenna with the Antenna Connector (supplied) as illustrated.

- The function of the DISTANT-LOCAL switch on the Antenna Connector is to adjust the signal strength supplied to the TV set. Normally, set this switch to DISTANT.
- When an external antenna is to be used, retract the Telescopic Antenna.
- For optimum reception in your car, the optional Roof-side Automobile TV Antenna for VHF/UHF VCA-3W, or Roof-top Automobile TV Antenna for VHF/UHF VCA-4 is recommended.



75ohm- convert 75ohm to 300 then use supplied Ant conn.

SPECIFICATIONS

Television system	American TV standards
Channel coverage	VHF channels 2–13 UHF channels 14–83
Picture tube	Trinitron tube 3.7-inch picture measured diagonally 50-degree deflection
Antenna	Telescopic Antenna for VHF and UHF 75-ohm external antenna jack (mini jack) for VHF and UHF
Speaker	7.7 cm (3 inches) dia.
Power requirements	120 V ac, 60 Hz 12 V dc
Power consumption	23 W ac (max.) 12 W dc (12 V)
Dimensions	Approx. 120 × 119 × 288 mm (w/h/d) Approx. (4¾ × 4¾ × 11⅜ inches) incl. projecting parts and controls
Weight	Approx. 3 kg (6 lb 10 oz) (excl. AC power adaptor or battery case)
Accessories supplied	Earphone ME-21 AC Power Adaptor AC-123W Battery Case BCP-5W Carrying Case External Antenna Connector
Optional accessories	Car Battery Cord DCC-16AW Battery Pack BP-36 Car Antenna VCA-3W, VCA-4

Design and specifications are subject to change without notice.

Sony Corporation Printed in Japan

4-495-988-**21** (1)